

## ABSTRACT OF THE DISCLOSURE

The invention is a timing gear flexible coupling for operation of a disc valve rotatively mounted in an internal combustion engine cylinder head. Rotation of the disc valve periodically opens and closes a plurality of exhaust and intake ports in the stationary stator of the cylinder head in a sequential manner corresponding to the alternating order of the engine of the engine thermodynamic pressure cycle. The purpose of the flexible coupling is to momentarily slow the rotational velocity of the disc valve during the highest peak pressure of the engine combustion stroke during the ignition spike which exponentially reduces the rubbing contact frictional energy between the disc and stator. The primary purpose of the timing gear flexible coupling is to reduce the shearing impact across the lubricating film at the sliding interface between the disc valve and stationary stator comprising the engine intake and exhaust ports thereby decreasing frictional surface wear and permitting faster engine acceleration.